FULL VERSION OF PENDING CLAIMS

Claims 1-17 (cancelled)

Claim 18 (Currently Amended): A cathode ray tube comprising:

a face plate having a phosphor screen on an inner main surface thereof;

an electron gun operable to emit an electron beam toward the phosphor screen;

a frame that holds a mask at a place between the electron gun and the inner main surface and closer to the inner main surface, so that the mask is substantially in parallel with the inner main surface; and

an internal magnetic shield that is a pyramid having two openings respectively at an apex and a bottom of the pyramid, has two opposite long sides and two opposite short sides, and is deposited to surround a path of the electron beam with the apex of the pyramid being on a side of the electron gun, wherein an end of the internal magnetic shield being the bottom of the pyramid is attached, inside the cathode ray tube, to the frame, and two corners of each long side are cut to extend the opening on the side of the electron gun,

wherein a length of each cut along an edge of each long side demarking the opening on the side of the electron gun is less than half of a length of the edge.

Claim 19 (Cancelled)

Claim 20 (Currently Amended): The cathode ray tube of Claim ~~19~~ 18, wherein

two corners of each short side are cut to extend the opening on the side of the electron gun so that the cuts of the long sides and the short sides extend to each other at each corner.

Claim 21 (Previously Presented): The cathode ray tube of Claim 20, wherein

bottoms of the cuts of the long and short sides are continuous without a step.

Claim 22 (Previously Presented): The cathode ray tube of Claim 20, wherein

an equation "Hl>H2" is satisfied, H1 representing a depth of the cuts of the long sides, and H2 representing a depth of the cuts of the short sides.

Claim 23 (Previously Presented): The cathode ray tube of Claim 22, wherein

the electron beam emitted from the electron gun is deflected vertically or horizontally by a deflection magnetic field and scans the phosphor screen, and

in a magnetic flux which acts on an electron beam that passes through either an upper or lower area each occupying 20% of an electron beam passing area along a vertical scanning direction,

an equation "Bl>B2" is satisfied, B1 representing a magnetic flux density generated at the opening on the side of the electron gun in a direction from a tube axis toward the upper or lower area, and B2 representing a density of each magnetic flux generated at both ends of the electron beam passing area in a horizontal scanning direction passing the tube axis, and

an equation "B11>B12" is satisfied, B11 representing a magnetic flux density generated at the opening on the side of the electron gun in a direction from the tube axis toward

the center of the upper or lower area, and B12 representing a density of each magnetic flux generated at the opening on the side of the electron gun in a direction from the tube axis toward both cuts at both ends in a horizontal direction of the upper or lower area, wherein the tube axis is an axis of the electron beam passing area.

Claim 24 (Previously Presented): The cathode ray tube of Claim 23, wherein

an equation "R1>R2" is satisfied, R1 representing a curvature of a magnetic flux being absorbed by both ends of the internal magnetic shield in a vicinity of the opening on the side of the electron gun in a vertical scanning direction, and R2 representing a curvature of a magnetic flux being absorbed by both ends of the internal magnetic shield in the vicinity of the opening on the side of the electron gun in a horizontal scanning direction, and

an equation "R11>R12" is satisfied, R11 representing a curvature of a magnetic flux being absorbed in a vicinity of the opening on the side of the electron gun in a vertical scanning direction at the center of the upper or lower area, and R12 representing a curvature of a magnetic flux being absorbed in a vicinity of the opening on the side of the electron gun at cuts at both ends in a horizontal direction of the upper or lower area, wherein the tube axis is an axis of the electron beam passing area.

Claim 25 (Previously Presented): The cathode ray tube of Claim 18, wherein

each long side has a rectangular extension at a center in a horizontal direction, by having two cuts at the opening on the side of the electron gun, and the extension is composed of a plurality of projections.

Claim 26 (Previously Presented): The cathode ray tube of Claim 25, wherein

each of the plurality of projections is rectangular or semi-circle-shaped.

Claim 27 (Previously Presented): The cathode ray tube of Claim 18, wherein

each short side is cut in a shape of a letter V, wherein a width, in a vertical direction, of the cut gradually decreases as the cut advances from an edge of each short side on the side of the electron gun toward the face plate.

Claim 28 (Previously Presented): The cathode ray tube of Claim 27, wherein

the cut of each short side widens upward and downward half way through a distance between the edge of each short side on the side of the electron gun and an end of the cut on a side of the face plate.

Claim 29 (Previously Presented): The cathode ray tube of Claim 18, wherein

the frame holds the mask by applying a tension to the mask.

Claim 30 (Previously Presented): In a magnetic shield for use within a cathode ray tube, the cathode ray tube having at least one source of an electron beam, wherein

the magnetic shield is in the shape of a hollow rectangular frustum, the first and third sides of the hollow rectangular frustum being formed of two opposite long sides, the second and fourth sides of the hollow rectangular frustum being formed of two opposite short sides, the interface between each adjacent long side and short side forming corner joints that are continuous from the substantially wider base to the substantially narrower top of the hollow rectangular frustum, the magnetic shield being disposed to surround the path of the electron beam with the top of the hollow rectangular frustum positioned near the source of the electron beam, the electron beam defining an axis from the top to the base of the rectangular frustum, the improvement comprising:

each top edge of each long side of the hollow rectangular frustum has a long side extension of height H1 forming a planar continuation of each long side in the direction of the top of the hollow rectangular frustum, each long side extension being centered along the top edge of each long side, each long side extension having lateral edges separated from the nearest corner joint by a width W1 along the top edge of each long side, to enable the magnetic shield to reduce the deviation of an electron beam within the magnetic shield caused by any external magnetic field.

Claim 31 (Previously Presented): The magnetic shield of Claim 30, wherein the width W1 is less than one-half the width of the entire top edge of each long side at the top of the hollow rectangular frustum.

Claim 32 (Previously Presented): The magnetic shield of Claim 30, wherein each long side extension is substantially a rectangular shape.

Claim 33 (Previously Presented): The magnetic shield of Claim 30, wherein each long side extension is substantially a trapezoidal shape.

Claim 34 (Previously Presented): The magnetic shield of Claim 30, wherein each long side extension is substantially a triangular shape.

Claim 35 (Previously Presented): The magnetic shield of Claim 30, wherein each long side extension is a plurality of projections.

Claim 36 (Previously Presented): The magnetic shield of Claim 35, wherein the plurality of projections are rectangular.

Claim 37 (Previously Presented): The magnetic shield of Claim 35, wherein the plurality of projections are semicircular.

Claim 38 (Previously Presented): The magnetic shield of Claim 35, wherein the plurality of projections are trapezoidal.

Claim 39 (Previously Presented): The magnetic shield of Claim 30, further comprising: each top edge of each short side of the hollow rectangular frustum has a short side extension of height H2 forming a planar continuation of each short side in the direction of the top of the hollow rectangular frustum, each short side extension being centered along the top edge of each short side, each short side extension having lateral edges separated from the nearest corner joint by a width W2 along the top edge of each short side.

Claim 40 (Previously Presented): The magnetic shield of Claim 39, wherein the width W2 is less than one-half the width of the entire top edge of each short side at the top of the hollow rectangular frustum.

Claim 41 (Previously Presented): The magnetic shield of Claim 39, wherein the top edges of each adjacent long side and short side meet at the corner joints.

Claim 42 (Previously Presented): The magnetic shield of Claim 39, wherein H1 is greater than H2 so that the long side extension is higher than the short side extension.

Claim 43 (Previously Presented): The magnetic shield of Claim 39, wherein each short side extension is substantially a rectangular shape.

Claim 44 (Previously Presented): The magnetic shield of Claim 39, wherein each short side extension is substantially a trapezoidal shape.

Claim 45 (Cancelled)

Claim 46 (Previously Presented): The magnetic shield of Claim 39, wherein the magnetic flux density generated at the long side extension is higher than the magnetic flux density generated at the short side extension.

Claim 47 (Previously Presented): The magnetic shield of Claim 39, wherein the magnetic flux density generated at the long side extension is higher than the magnetic flux density generated between the long side extension lateral edges and the adjacent short side corner joints.

Claim 48 (Previously Presented): The magnetic shield of Claim 39, wherein the magnetic flux density generated at the short side extension is higher than the magnetic flux density generated between the short side extension lateral edges and the adjacent long side corner joints.

Claim 49 (Previously Presented): The magnetic shield of Claim 39, wherein each short side extension is a plurality of projections.

Claim 50 (Previously Presented): The magnetic shield of Claim 49, wherein the plurality of projections are rectangular.

Claim 51 (Previously Presented): The magnetic shield of Claim 49, wherein

the plurality of projections are semicircular.

Claim 52 (Previously Presented): The magnetic shield of Claim 49, wherein the plurality of projections are trapezoidal.

Claim 53 (Cancelled)